

Our Reference: SPM-272-B

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Holger Gödeke, Jürgen Werner, Gerhard Babuke
Serial Number: To be Assigned
Filing Date: Concurrently
Examiner/Art Group Unit: To be Assigned
Title: LIGHTWEIGHT SUBSTANCE MOLDED
BODY, METHOD FOR THE PRODUCTION
AND USE THEREOF

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

If any charges or fees must be paid in connection with the following communication, they may be paid out of our Deposit Account No. 25-0115.

Prior to initial examination, please amend the above-identified patent application as indicated below.

IN THE SPECIFICATION:

On page 1, before the first paragraph, please insert the following paragraph:

This application is a continuation of patent application serial number 09/402,032, filed on September 24, 1999.

IN THE CLAIMS:

1. A molded body from a lightweight substance formed from a lightweight aggregate and a sintering auxiliary, comprising:
a sintered product obtained by mixing a lightweight substance of 80 to 93 wt% of a lightweight aggregate selected from the group consisting of perlites,

expanded clay, expanded glass, vermiculites, and kieselguhr and their mixtures with 20 to 7 wt% of an aqueous alkali silicate solution where the lightweight aggregate is bonded in a network structure exclusively at the contact sites to obtain its essential properties, wherein the molded body has a dry bulk density and that the dry bulk density lies in the range from 150 to 750 kg/m³.

Please cancel claim 2.

3. Molded body according to Claim 1 further comprising that the molded body has a compressive strength and that the compressive strength lies in the range from 0.1 to 15 N/mm².

Please cancel claim 4

5. Molded body according to claim 1 wherein the aqueous alkali silicate solution is alkali silicates.

6. Process for the production of a molded body according to claim 22 further comprising the steps of:

subjecting the lightweight aggregate and the aqueous alkali silicate solution to a shaping process after mixing and sintering at 400°C to 1000°C over a period from 0.1 h to 5 h.

7. Process according to Claim 6, wherein the molded body has a compressive strength in the range from 0.1 to 15 N/mm² and at least one of the dry bulk density and the compressive strength is adjusted as a function of the lightweight aggregate and the process parameters during sintering.

8. Process according to Claim 6 further comprising the step of drying at 50°C to 95°C after shaping and before sintering.

9. Process according to claim 6 wherein the sintering process is conducted at 550 to 850 °C.
10. Process according to claim 6 wherein sintering occurs during a period from 0.1 h to 0.5 h.
11. The molded body according to claim 1, wherein the molded body is used as insulation.
12. The molded body according to claim 1, wherein the molded body is used as construction material.
13. The molded body according to claim 1, wherein the molded body is used as furnace lining.
14. The molded body according to claim 1, wherein the molded body is used as a brick for formation of exhaust installation.
15. The molded body according to claim 1, wherein the molded body is used for technical sound protection in interior rooms.
16. The molded body according to claim 1, wherein the molded body is used for a sound-absorbing segment for fixed passageways of rail vehicles.
17. The molded body according to claim 1, wherein the molded body is used as a fireproofing element.
18. The molded body according to claim 1, wherein the molded body is used as a sound absorber in exhaust lines.

Please add new claims 21 and 22 as follows:

21. Molded body according to claim 1, wherein the lightweight aggregate is cenospheres.

22. A process for the production of a molded body from a lightweight substance formed from a lightweight aggregate and a sintering auxiliary, the process comprising the steps of:

obtaining a sintered product by mixing a lightweight substance of 80 to 93 wt% of a lightweight aggregate selected from the group consisting of perlites, expanded clay, expanded glass, vermiculites, and kieselguhr and their mixtures with 20 to 7 wt% of an aqueous alkali silicate solution where the lightweight aggregate is bonded in a network structure exclusively at the contact sites to obtain its essential properties wherein the molded body has a dry bulk density and that the dry bulk density lies in the range from 150 to 750 kg/m³.

REMARKS

This amendment to the claims is based on the New Patent Claims translated after the supplemental sheets (enclosed) from the original International Patent Application. After entry of this amendment, claims 2 and 4 are cancelled, claims 21 and 22 are added, and claims 1, 3, and 5-18 are amended. Claims 1, 3 and 5-18, 21 and 22 are pending in the application.

It is submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Consideration of the application as amended is requested. It is submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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DPC/jbf

MARKED-UP VERSION OF SPECIFICATION AND CLAIM AMENDMENTS

IN THE SPECIFICATION:

This application is a continuation of patent application serial number 09/402,032, filed on September 24, 1999.

IN THE CLAIMS:

1. (Amended) [Molded] A molded body from a lightweight substance formed from a lightweight aggregate and a sintering auxiliary, [characterized by the fact that the lightweight substance is] comprising:

a sintered product obtained by mixing a lightweight substance of [60 to 95] 80 to 93 wt% of a lightweight aggregate[, chosen from] selected from the group consisting of perlites, expanded clay, expanded glass, vermiculites, [cenospheres] and kieselguhr [and/or] and their mixtures with [40 to 5] 20 to 7 wt% of an aqueous alkali silicate solution[, in which] where the lightweight aggregate is bonded in a network [fashion] structure exclusively at the contact sites to obtain its essential properties[.], wherein the molded body has a dry bulk density and that the dry bulk density lies in the range from 150 to 750 kg/m³.

3. (Amended) Molded body according to Claim 1 [or 2, characterized by the fact] further comprising that the molded body has a compressive strength and that the compressive strength lies in the range from 0.1 to 15 N/mm².

5. (Amended) Molded body according to [at least one of the Claims 1 to 4, characterized by the fact that] claim 1 wherein the [water-soluble] aqueous alkali silicate solution is [chosen from] alkali silicates[, especially water glass, especially sodium water glass and potassium water glass].

6. (Amended) Process for the production of a molded body according to claim 22 [at least one of the Claims 1 to 5, characterized by the fact that] further comprising the steps of:

subjecting the lightweight aggregate and the [binder] aqueous alkali silicate solution [are subjecting] to a shaping process after mixing and sintering at 400°C to 1000°C over a period from 0.1 h to 5 h.

7. (Amended) Process according to Claim 6, [characterized by the fact that] wherein the molded body has a compressive strength in the range from 0.1 to 15 N/mm³ and at least one of the dry bulk density [and/or] and the compressive strength is adjusted as a function of the lightweight aggregate and the process parameters during sintering.

8. (Amended) Process according to Claim 6 [or 7 characterized by the fact that] further comprising the step of drying at 50°C to 95°C [is carried out] after shaping and before sintering.

9. (Amended) Process according to [at least one of the Claims 6 to 8, characterized by the fact that] claim 6 wherein the sintering process is conducted at 550 to 850 °C.

10. (Amended) Process according to [at least one of the Claims 6 to 9, characterized by the fact that] claim 6 wherein sintering occurs during a period from 0.1 h to 0.5 h.

11. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used as insulation [molded bodies].

12. (Amended) [Use of the] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used as construction material[, especially as bricks].

13. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used as furnace lining.

14. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used as [bricks] a brick for formation of exhaust installation.

15. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used for technical sound protection in interior rooms.

16. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used for a sound-absorbing [segments] segment for fixed passageways of rail vehicles.

17. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used as a fireproofing [elements] element.

18. (Amended) [Use of a] The molded [bodies] body according to [at least one of the Claims 1 to 5] claim 1, wherein the molded body is used as a sound [absorbers] absorber in exhaust lines.

21. (New) Molded body according to claim 1, wherein the lightweight aggregate is cenospheres.

22. (New) A process for the production of a molded body from a lightweight substance formed from a lightweight aggregate and a sintering auxiliary, the process comprising the steps of:

obtaining a sintered product by mixing a lightweight substance of 80 to 93 wt% of a lightweight aggregate selected from the group consisting of perlites, expanded clay, expanded glass, vermiculites, and kieselguhr and their mixtures with 20

[illegible]